

1. A substantially pure population of viable pancreatic progenitor cells characterized by expression of PDX-1 and able to differentiate into glucose-responsive, insulin-secreting cells.
2. The substantially pure population of claim 1, wherein a subset of the population of cells expresses insulin.
3. A method of isolating pancreatic progenitor cells comprising:
  - a) contacting pancreatic tissue with an antibody that binds to PDX-1;
  - b) detecting binding of the antibody; and
  - c) isolating the cells that bind to the antibody,wherein the isolated cells are pancreatic progenitor cells.
4. The method of claim 3, wherein the pancreatic tissue comprises pancreatic ductal epithelial cells.
5. The method of claim 4, wherein the pancreatic ductal epithelial cells are found in the periluminal and luminal locations.
6. The method of claim 3, wherein a subset of the isolated cells also express insulin.